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ABSTRACT

Changing conditions in the workplace and the impact of these changes on the individual worker are examined in this paper, which also discusses the implications of these changes for education and training. Major workplace trends likely to continue through the year 2000 include changes in work force demographics, in the industry mix, and in the nature of jobs. These developments suggest that students entering the work force during the next decade will need self-management skills and work orientation. The U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills' (SCAN's) approach to the problem of linking education and training to workplace competencies, as outlined in a 1991 report, provides a descriptive framework for relating research to practice. Prescriptions for increased productivity must recognize individual goals, motivations, and skills. (17 references) (LMI)

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Education from a Workplace Perspective: Issues of Self-Management

Presented at the 1992
American Educational Research Association Meeting
San Francisco, CA

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Introduction

Organizations have long viewed schools as a powerful training ground for future workers. However, organizational perspectives on the role of schools in preparing the future workforce have changed dramatically during the past decade. Rapid changes in the workplace have greatly increased the cost of organizationally-sponsored education and training programs. It is currently estimated that U.S. businesses spend approximately 210 billion dollars a year for on-the-job education and training (Hamilton, 1988, cited in Offerman & Gowing, 1990) -- a substantial amount by most standards. For U.S. businesses to survive and prosper, education and training costs must be controlled. For better or worse, organizations tend to view educators and schools as natural, attractive partners in this regard. Although some may view this partnership as one-sided, recent developments in workplace suggest that organizations are undergoing a *fundamental* shift in how they think about education and training of the workforce. Obviously,

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organizations continue to view schools as necessary for providing training in basic skills such as math and reading. Less obvious, but just as important however, is the growing realization that schools also play a major role in shaping the patterns of work behavior and achievement orientation that employees bring to the workplace. As analyses of demographic, economic, and technological changes in the workplace accumulate, it is becoming clear that training and transfer of employee skills in other areas, such as self-management, will have a major impact on future work productivity. In this regard, organizations are much less well-prepared; it is likely they will rely heavily on educators and researchers to assist in developing these workforce talents. Theory and research on conditions that instantiate self-regulation processes (e.g., contexts that promote perceptions of ability as malleable) as well as issues pertaining to the trainability, generalizability, and transfer of self-management skills will be of particular importance to organizations in the comming decade.

The following section provides a brief overview of the changing conditions in the workplace and the impact of these changes on the individual worker. I then conclude with a discussion of the implications of these changes for education and training.

During the last decade, technological and economic changes in

business, as well as demographic changes in the size and composition of the labor pool, have prompted growing attention to the gap between job skill requirements and labor force competencies. The conclusions of several recent analyses and forecasts of the workplace and labor pool through the year 2000 all point to a growing gap between employee skill levels and organizational personnel needs. To date, much of the publicity about the skills gap has focused on labor pool skill deficits in basic areas, such as reading and math. While it is quite true that skill deficits in these areas present formidable problems for both individuals and organizations, to acquire these skills alone is not enough to ensure continued employment. Rather, successful transition into the workplace will require a range of skills that enable continued learning and effective management of problems and resources throughout one's work career. Although educational psychologists appear to have recognized the importance of skills other than literacy earlier than their organizational colleagues, recent advances in organizational research indicate *how* these skills relate to productivity and job performance. Delineation of the linkages between these relatively neglected areas of development and key facets of work performance provides a common foundation for new research and practice in both educational and organizational domains.

The workplace of the present and future

A recent publication by the Hudson Institute, entitled *Workforce 2000,* describes major workplace trends likely to continue through Year 2000. The report details changes in three areas relevant to the discussion here: (1) Workforce demographics, (2) Changes in the industry mix, and (3) Changes in the nature of jobs.

Demographics

In terms of demographics, the growth rate of the labor force is slowing and changing in composition. The shrinking growth rate of the pool is accounted for primarily by the declining number of new entrants (aged 16-24) into the workforce. In the late 1970s, approximately three million workers entered the workforce each year; in 1990 this number had shrunk to approximately 1.3 million (Goldstein, 1990). The composition of the workforce is also changing; only 15% of new workers between 1987 and 2000 are expected to be native white males (compared to 47% in 1987; Workplace 2000, 1987). Females and minority youth will represent increasingly larger portions of this labor pool segment.

The implications for organizations are dramatic. The declining number of new entrants means that some organizations will no longer be able to select only the most highly qualified individuals from a large pool of

applicants. To meet personnel needs in this new environment, some organizations have begun to shift their emphasis from selection to training; that is, to enlarging the pool of qualified applicants by providing training to persons who might have previously been rejected from consideration altogether. Goldstein (1990) refers to this as the problem of unskilled youth, and points out that many of the adults that comprise the category of hard-core unemployed start out as undereducated minority youth.

For these persons, jobs will be harder to find in the coming years as the skill requirements of entry level jobs increase. To address the problem of providing sufficient talent, a growing number of organizations have begun to sponsor stand-alone or school-based training programs. These programs, such as those sponsored by Time and General Electric, aim at increasing literacy and other basic life skills among members of this population.

Changes in the industry mix

Perhaps a more important work trend pertains to the relative increase in the number of service jobs compared to manufacturing jobs. Personick (1985) estimates that almost nine out of every ten new jobs will be in the service sector of the economy. In the past, manufacturing jobs typically involved working with machines and co-workers to produce or add value to tangible products. Service sector jobs, on the other hand, often involve

"people work" (Klein & Hall, 1988); namely working with customers to facilitate an outcome. In manufacturing jobs reliability can often be precisely assessed in terms of the actions performed. In service sector positions, this concept of human reliability is far more difficult to measure and may even be meaningless in some jobs.

Changes in the nature of jobs.

The impact of technological advances on what people do at work cuts across both manufacturing and service sectors. The conclusion drawn by many organizational researchers and personnel is that technological improvements increase the complexity of jobs and demand that employees engage in higher-level cognitive activities, such as diagnoses and decision-making, often under time-pressure (Goldstein, 1990).

Another change in the workplace that affects what people do at work pertains to the increasing use of workteams, or groups, to accomplish organizational tasks. Sundstrom and his colleagues note the pervasive nature of teamwork in contemporary organizations, ranging from engineering teams given a task of developing a new product over a prolonged time period to surgical teams that come together for relatively short periods of time for a particular event.

Finally, I should also note recent changes in organizational involvement

in employee health and well-being. As health-care costs rise and organizations quantify the costs associated with illness and various lifestyles, businesses are focusing on enhancing healthy behavior patterns among their workers. For example, Conrad (1987, cited in Gebhardt & Crump, 1990) estimated that by 1987, 50,000 companies (with 100 or more employees) had sponsored some type of health promotion program. Many of these programs involve self-management skill training.

Competencies

A recent report by the Secretary's Commission on Achieving Necessary Skills (SCANS) of the U.S. Department of Labor identifies three broad skills and personal qualities thought to provide the foundation for subsequent acquisition and use of job-related competencies: (1) Basic skills, (2) Thinking Skills, and (3) Personal Qualities. Of greatest relevance here is the third category, Personal Qualities, and in particular two further subcategories -- self-management and responsibility. Regarding these qualities the Commission states:

> "The personal qualities are attributes that employers would like to be able to take for granted, but cannot. They are so important that their absence can quickly disqualify any job seeker at any level of accomplishment. Schools normally do not

"teach" these qualities in the classroom itself but weave them into the life and structure of the school environment..." (p. 17).

Consistent with common and theoretical notions of self-regulation and self-management (see Corno & Kanfer, in press; R. Kanfer & F. Kanfer, 1991 for reviews of this literature), the commission further defines self-management qualities in the following way:

> "Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals; monitors progress toward goal attainment and motivates self through goal achievement; exhibits self-control and responds to feedback unemotionally; is a "self-starter" (p.C-2).

Related to self-management is the personal quality of responsibility. The Commission defines this area as:

> "Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well, and displaying a high level of concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks" (p. C-2).

As described by the Commission, responsibility emphasizes the motivational force that underlies self-management activities.

Self-management training

As noted by the Commission, organizational personnel have long recognized, at least implicitly, the importance of self-management in effective job performance. During the past decade, such recognition has become more explicit.

Forecasts of the workplace in the year 2000 indicate that an individual's self-regulatory/self-management skills will become increasingly important. From an organizational viewpoint, such competencies translate to a potential reduction in costs associated with training, supervision, and poor performance. For example, the increase in service-sector jobs and office automation is predicted to cause fundamental changes in the size of businesses and the location at which work is done. The Hudson report suggests that service businesses tend to operate with very small numbers of employees and in locations close to the customer. As such, these businesses are expected to have fewer resources that can be devoted to training or supervision. In contrast to larger firms, employees will be expected to do more self-management of time, activities, and resources.

Advances in office automation and database encoding, storage, and

retrieval make teleworking, or work at locations other than the traditional office, both a viable and an attractive job incentive for employees with child care responsibilities (Turnage, 1990). In teleworking jobs, however, supervisors have far less contact with employees and employees who work at home must often manage their own motivation -- that is, they must set difficult and specific goals for themselves in the absence of coworker encouragement and possibly in the presence of non-work demands on their time. Teleworkers must also accurately self-monitor their progress toward goal attainment. Self-regulatory skills thus become a major determinant of satisfactory performance in these types of jobs.

At present, many organizations supplement or attempt to enhance work motivation and job-related self-management activities through supervisory practices. Supervisors may encourage employees to participate in goal setting as a means of increasing job involvement, assign a series of graded goal assignments to build self-confidence and intrinsic interest in job performance, assign specific goals to direct the employee's attention to important job activities, or provide informative feedback to facilitate self-monitoring of progress. Although these practices provide serve a useful purpose in enhancing performance, they ultimately place the burden of self-management largely *on the supervisor* rather than the employee (and often

require extensive supervisory training). Furthermore, in complex jobs, these practices may be neglected or used sporadically since they tend to take up so much of the supervisor's time.

A few recent studies aimed at training self-management skills suggest that self-management as a personal quality is usefully conceptualized as a skill that can enhance work performance when developed with practice. Latham and Frayne (1989; Frayne & Latham, 1987) found that self-management training among high-absentee state employees enhanced self-efficacy expectations for attendance and lowered absenteeism one year following the training. In a study involving performance of a salary negotiation simulation task, Gist et al. (1990) found significant positive effects on performance among students given self-management training compared to students trained only in goal-setting. In the context of complex skill acquisition, Phillip Ackerman and I (Kanfer & Ackerman, 1990) examined the influence of part-task self-regulatory strategy training for subsequent performance on an air traffic controller simulation task. We found that self-regulatory strategy training aimed at emotion control had a particularly beneficial effect early in skill acquisition, while training aimed at motivation control had its most pronounced effect on performance in later phases of skill acquisition. Taken together, these studies suggest that

explicit, context-situated self-management training may be quite useful in developing both academic and life skills necessary for successful employment and career advancement.

The developments I have mentioned so far indicate that students entering the work force during the next decade will be required to demonstrate general competencies in self-management skills, such as goal setting, self-monitoring, self-evaluation, and self-reinforcement. From a labor force perspective, however, knowledge of such skills is most useful when the individual uses self-regulation skills to enhance job expertise, increase his/her productivity, or develop innovations in products or processes. In psychological terms, these organizational needs most closely relate to student development of a work orientation characterized by achievement striving and generalized mastery goals. In SCANS terminology, such characteristics are termed responsibility qualities.

An example illustrates the importance of this orientation for the workplace. Most organizational analysts agree that, in contrast to the past, new employees in manufacturing jobs will be required to engage in more cognitively complex activities, such as decision making and diagnostics, under more severe time pressures. Effectiveness in such activities will in large part depend upon the individual's participation in training aimed at

updating skills and increasing expertise in families of related jobs. The recent movement toward skill-based pay and the development of competency standards for various jobs reflects the emphasis organizations place on sustained learning and mastery orientations toward work.

Work orientation is also expected to play an important role in the success of individuals in entry-level service sector jobs. In addition to self-management skill, persons in these jobs must sustain a high level of involvement and commitment (Jackson & Schuler, 1990). Pay is often low, the work repetitive, and failure frequent. A recent study by Helmreich, Sawin, & Carsrud (1986) illustrates the role of work orientation on job performance quite clearly. They assessed the predictive validity of individual differences in achievement motivations on performance among airline reservation agents at three periods -- during training and again at 3-4 and 6-8 months into the job. In this job, the key performance measure was the amount of time agents spent taking calls on the telephone. The authors found that work orientation was not significantly related to performance during training, but was positively and significantly related to performance at both later time periods.

Although work orientation is generally thought of as a relatively stable individual difference, theory and research in educational psychology suggests

that student preferences for particular types of achievement can be shaped by school experiences. School experiences that foster mastery and work motivation will be particularly important for students with lower skill levels in basic areas, since jobs for these students will likely be of low pay and involve repetitive work.

Conclusion

In summary, recent analyses of workplace trends suggest that self-management skills and work orientation represent important determinants of performance in a growing number of jobs. Explicit self-management skill training and creation of conditions that foster development of a work/mastery orientation in the schools has powerful implications for addressing organizational needs. Educational programs of this type encourage continued learning among youth that would otherwise drop out and be lost from the job market. Once employed, self-management skills foster productivity among employees who will be engaged in more autonomous work.

The SCANS approach to the problem of linking education and training to workplace competencies represents an important new direction for research and practice. By linking skills and qualities developed in the schools with key work competencies as derived from job analyses across a broad

range of occupations, SCANS highlights the potential gains that can be made by using a descriptive (data-driven where possible) rather than prescriptive framework. That is, educators and organizations alike can use the framework to identify the likely antecedents and consequences of observed problems in both school and work settings. One can also use the framework to *anticipate* the likely consequences of changes in either school curricula or workplace skill requirements.

Workforce 2000 concludes that adequate preparation of the future workforce will involve, among other things, having students attend school longer and study more (p. 117)." Analogous prescriptions have been offered for U.S. business; that is, productivity will increase if employees work harder and longer. In both instances, however, such prescriptions tend to neglect the critical importance of the individual's goals, motivation, and skill in managing relevant resources in service of goal attainment.

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